

**Annual Report to the Legislature and the California
Integrated Waste Management Board
Senate Bill 876
Waste and Used Tires**

Purpose

This report was prepared in accordance with Section 20 of Chapter 838, Statutes of 1999, (SB 876, Escutia), which amends and adds numerous sections to the Public Resources Code including Section 42889.3, which states:

On or before January 1 of each year, the Department of Transportation shall report to the Legislature and the board on the use of waste tires in transportation and civil engineering projects during the previous five years, including, but not limited to, the approximate number of tires used every year, and the types and location of these projects.

Background

The State of California generates over 30 million waste tires annually. In addition, over 3 million waste tires are imported into the State each year. Of these tires, roughly 19 million are recycled annually. Without significant expansion of the existing markets for waste tire usage such as rubberized asphalt concrete, playground mats or other surfacing, civil engineering applications and tire derived fuels, the tire stockpile (both legal and illegal) and the environmental issues they pose will continue to grow. This has been relevant in recent years when California experienced two tire fires: one at the Filbin stockpile in Westley and the other at the Royster stockpile in Tracy.

Department's Efforts

The California Department of Transportation (Department), in an effort to be a good steward of our resources and environment, has established a variety of uses for recycled content tire products and civil engineering applications in our transportation projects. One of these efforts is the use of Rubberized Asphalt Concrete (RAC) on many of our projects, see Appendix 1. RAC is different than conventional asphalt concrete in that it incorporates the use of crumb rubber from waste tires in the process.

Use of tires as a fuel supplement in cement kilns and cogeneration facilities constitutes the largest market for waste tires, both nationally and in California. For example, of the waste tires generated in 1999, approximately 4.1 million (38.8 percent) were used as Tire Derived Fuel (TDF) in various cement kilns in California. These kilns produce cement, which is used to manufacture concrete

that the Department incorporates into many of our construction projects. Over the past five years, the Department has used approximately 1,806,000 tons of cement in highway projects (361,000 tons annually). Approximately 12 million tons of cement is produced in California each year. The Department's share is about three percent of the total market.

Another very promising effort involves a partnership with the California Integrated Waste Management Board (CIWMB) in promoting the use of shredded waste tires as lightweight fill material. This was piloted for the first time in California on the Dixon Landing project in Santa Clara County. On this project, the Department, along with the CIWMB, had 660,000 tires shredded and used as fill material for the construction of a new embankment. This is a significant number of tires used on only one project, as shown in the table below.

Waste Tires Used in Department of Transportation Projects¹				
Year	Number of Tires Used in RAC Projects	Number of Tire Used as TDF³	Number of Tires Used as Lightweight Fill	Totals
1997	622,160	165,000		787,160
1998	621,284	90,000		711,284
1999	777,389	123,000		900,389
2000	2,698,778	123,000		2,821,778
2001	1,113,593 ²	123,000	660,000	1,896,593
Subtotal	5,833,204	624,000	660,000	7,117,204

¹ Based on projects listed in Appendix 1.

² This figure includes projects through the second quarter of the year.

³ Based on information from the CIWMB which states the total number of tires used as TDF in cement kilns in California as follows: 1997 - 5.5 million tires; 1998 - 3.0 million tires; 1999, 2000, 2001 (projected) - 4.1 million tires each year. These values were then multiplied by the Department's 3% share of the market to determine the number of tires used as TDF.

Summary

The Department continues to help reduce the number of waste tires entering California's landfills. The Department has promoted the use of rubberized asphalt concrete as roadway pavement and is continually looking for innovative uses of recycled materials for our transportation projects. The Department's use of waste tires shows a trend of increase with each successive year. It is fully anticipated that this trend will continue as the Department evaluates new uses for waste tires and industry incentives promote the recycling of tires as opposed to dumping them into landfills.